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Imaging

DIAGNOSTIC ACCURACY OF 2D-SPECKLE TRACKING ECHOCARDIOGRAPHY FOR DETECTION OF OBSTRUCTIVE CORONARY ARTERY DISEASE: A META-ANALYSIS

Poster Contributions

Poster Sessions, Expo North

Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Imaging: Echocardiographic Imaging of Patients with CAD: II

Abstract Category: 18. Imaging: Echo

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Authors: *Jaspreet Singh, Arun Kannan, Ahlam Saleh, Aiden Abidov, The University of Arizona, Tucson, AZ, USA*

Background: Two dimensional speckle tracking echocardiography (2D STE) is a quantitative myocardial strain imaging technique for evaluation of global and segmental cardiac function. The aim of the meta-analysis was to determine diagnostic accuracy of 2D STE in the detection of obstructive ($\geq 50\%$) CAD (by angiography) or ischemia (by SPECT) in patients undergoing rest or stress echocardiography.

Methods: MEDLINE, Cochrane CENTRAL, Web of Science, BIOSIS, ClinicalTrials.gov, and WHO ICTRP were searched till November 2012 for studies evaluating diagnostic accuracy of 2D STE using predetermined criteria (studies with > 10 patients with data on diagnostic accuracy). Pooled sensitivity and specificity across the studies was calculated using fixed effects model.

Results: Out of 2185 studies, only 19 studies including 2189 patients were found to be suitable for inclusion by two independent reviewers. Overall, pooled sensitivity and specificity of 2D STE for prediction of obstructive ($\geq 50\%$) CAD or ischemia was 83.7% and 82% (Figure 1). 14 out of 19 studies demonstrated an incremental value of 2D STE over clinical and or Echo data. Average rate of nondiagnostic 2D STE tests among selected studies was 9%.

Conclusions: 2D STE can detect obstructive CAD or ischemia with high diagnostic sensitivity and specificity. 2DSTE provides an incremental diagnostic value over standard clinical and Echo assessment/LVEF in patients with known or suspected CAD.

